KARO-ECHO Disaster Communications Plan

I. Goals:

Introductory note:
The following plan is based on “BEST PRACTICES”, which have undergone nearly a century of fine tuning and refinement originally first implemented by UTL (United Trunk Lines), the National Traffic System, and the ARRL Emergency Corp (AEC) in 1935, later changing its name to the Amateur Radio Emergency Corps (AREC). And again, in 1978, the AREC changed its name to the Amateur Radio Emergency Service (ARES).

George Hart, W1NJM organized the National Traffic System and ARES under one umbrella, the Amateur Radio Public Service Corps (ARPSC). Organizational plans then incorporated “best practices” after many years of actual hands-on emergency communications operations in the field over a wide swath of disaster conditions nation-wide. As conditions change, the skilled amateur radio emergency service operators are also prepared to adapt.

Purpose:
To provide skilled amateur radio operators for disaster communications for El Cerrito, Kensington, and nearby communities, and in particular for any Community Emergency Response Teams (CERTs) or equivalent, the El Cerrito/Kensington Emergency Operations Center (EOC), the EC Fire Department, Kensington Fire Protection District, and associated relevant non-profit disaster services organizations that service the EC/K and adjacent areas, such as, but not limited to, the American Red Cross, Salvation Army, Emergency Medical Clinics/Urgent Care Centers, Hospitals, the County Office of Emergency Services (OES), Public Works, utility companies, and other service organizations who are organized for the primary purpose to save lives, destruction of infrastructure and property, alleviate suffering, and promote the general welfare of the people of El Cerrito and Kensington and nearby areas.

Specifically, KARO-ECHO will attempt to liaison and provide ham radio communications for all the CERT zones or equivalent, both between CERT zones (inter-zone), within the CERT zones (intra-zone), and from the CERT zone Command Posts (CPs) to the EOC as our highest priority through the implementation of their District Radio Communications Coordinator (DRCC) Communications Hub program. KARO-ECHO will develop a plan to interface with CERT zones’ FRS/GMRS inter-block network, train with the FRS/GMRS CERT network, and provide technical guidance; to enable relayed disaster communications from within the disaster area to and from the EOC and neighborhoods when requested by the CERT Zone Coordinator or his/her designated CERT zone Incident Commander (IC). KARO-ECHO teams will be available to train new FRS/GMRS operators or act as technical advisors when requested by CERT Zone Coordinators (ZCs) or District Commanders.

Additionally, KARO-ECHO will attempt to provide skilled mobile/portable Mutual Aid Teams (MAT) capable of serving any CERT zone in EC/K as well as neighboring EmComm jurisdictional needs when requested in accordance with best practices. Similarly, KARO-ECHO may need assistance from adjacent Mutual Aid Teams and therefore will liaison with and establish Memorandums of Understanding (MOU) with such adjacent amateur radio EmComm service groups such as Richmond, NALCO Ares/RACES, and CoCo County ARES/RACES/ACS. (See the KARO-ECHO Field Operations Handbook for further details on Mutual Aid Teams (MAT).

Specifically, and upon request, KARO-ECHO will provide portable radio communications hubs to provide interoperability within the city and for mutual aid externally, in addition to providing radio shadows for disaster relief agents, public works officials, served intra-agency personnel, and provide inter-agency communications to served disaster agencies.

Lastly, KARO-ECHO will, upon request, provide public safety communications for non-profit charities, municipal parades, community events, simulated emergency tests, regional public events, and related on a secondary basis.

II. Scope:

It is KARO-ECHO's scope of operation to primarily provide communications during disasters within served agencies, between agencies, disaster relief organizations, and neighborhood disaster response teams. This includes identifying and collaborating with our client's communications needs, providing communication planning and counseling, preparing for disaster communications through training, and lastly providing that service when conventional power, internet, telephone, cell phone, and conventional modes of communication are either interrupted, overloaded, unreliable, or non-existent. It is not KARO-ECHO's job to create our served client's disaster planning outside of the scope of amateur radio communications, however, our trained disaster operators may serve as consultants and trainers for GMRS, FRS, MURS, and the Citizen Band radio services when requested or deemed appropriate.

Training within KARO-ECHO is specifically outlined in detail in the KARO-ECHO Field Operations Handbook based on "best operating practices" which emphasizes accuracy and speed, but never sacrificing accuracy for speed. Our hallmarks are accuracy, brevity, clarity, and speed. To that end, there exists a plethora of training tools on the KARO-ECHO website.

III. Activation/Alerting:

A. KARO-ECHO Activation (Internally)

1. Large earthquakes are self-alerting/self-announcing. If a significant earthquake is experienced (using the Modified Mercalli Intensity Scale as reference) that indicates a MM 7 or greater all operators will **monitor the KARO-ECHO primary net frequency (146.415 MHz) and await assignment** by the Emergency Coordinator (EC) or Assistant (AEC). If absent, the most experienced first arrivals to respond shall take over as the Net Control Station (NCS). More than two operators constitute the need for a net. Hams with dual GMRS-FRS/HAM capabilities should also monitor the designated FRS/GMRS frequencies in their zones for block status. NCS will first ask for Modified Mercalli (MM) Intensity Scale readings. locations, and callsigns as stations check-in to the net. Monitoring the CoCo County-wide repeater on 145.49 MHz and the West County RACES/ACS repeater on 145.11 MHz, in addition, would be helpful as long as the repeaters are functioning. If all zones reporting indicates minimal damage, minimal MM readings, power, telephone, internet, and cell service intact, then the radio net may be deactivated at the discretion of the EC, AEC, or NCS depending on who is present. Small earthquakes and the activation of these self-activating nets will serve as preparation and training, familiarizing radio operators as to procedures.

2. Floods and climate chaos (hurricane/tornado force winds) may often be self-alerting/announcing as well. If such conditions are likely, operators are directed to monitor the primary net frequency of 146.415 MHz simplex, the designated FRS/GMRS frequencies for their zone ICP and await status reports and/or assignment.

3. Chemical spills, fires, terrorist attacks, mudslides, gas-main leaks, tsunamis, EMPs, or other alerts, etc. may occur at any time often without warning; hence, various alternative alerting methods should be prearranged. **Nixle** (see www.Nixle.com). Also registering with the Contra Costa County Community Warning System **(CWS)** (see HYPERLINK "https://cwsalerts.com" https://cwsalerts.com) might be a tertiary adjunct, assuming some cell phone communications via SMS texting are possible. SMS texting is more reliable than cell phone voice comms.

For SMS texting to work successfully an updated telephone list should be kept by the KARO-ECHO Emergency Coordinator (EC) and shared by at least one Assistant (AEC). An up-to-date email and phone number list should be kept by a designated activator and his/her alternative in order to activate such a list. **First Net** is a special fast cell phone network available to certified medical first responders. Similarly, the GETS (Government Emergency Telecommunications Service), **WPS** (Wireless Priority Service), and the **TSP** (Telecommunications Service Priority) are alternatives available to Federal Disaster Services personnel. See: https://www.dhs.gov/cisa/government-emergency-telecommunications-service-gets

The KARO-ECHO EC (Emergency Coordinator) and AECs (Assistant ECs) should have a telephone call list handy to alert and activate radio operators in case of a disaster, which is not self-announcing.

4. Power Outages: In any case**,** if the internet, cell phones, telephones, and power are down, one should assume that a disaster situation is probable and monitor the primary designated frequencies. The same is true if we hear sirens other than at 11 AM on Wednesdays. We will assume that all CERT Zone Coordinators will be capable of at least FRS communications with an embedded ham radio operator (a DRCC), who is preassigned to each zone ICP, staging area, or District Communications Hub depending on the ZC's disaster plan.

4a. Self-Announcing/alerting and Non-Self-Announcing/alerting Events: In the absence of such official alert/activation notifications, but if local radio activity reports injuries, severe damage, and outage of normal means of communications, and/or if conditions are reported as dire, then the ham radio operator would report to the KARO-ECHO Net and if directed proceed to their predesignated staging area/gathering positions, while simultaneously **monitoring 146.415 MHz.** Tune in to KCBS 106.9 MHz, FM or 740 kHz AM, and NOAA for wide-area disaster situational reports.
In predicted disaster events such as a NWS predicted hurricane warnings, predicted tsunamis, or similar non-self-announcing events the KARO-ECHO EC or AEC will need to utilize telephone, SMS, or email to activate the KAROECHO Net.

4b. Public Safety Power Shutoffs (PSPS): See: HYPERLINK "https://psps.ss.pge.com/" https://psps.ss.pge.com/
Our power utility Company (PG&E) has recently instituted power grid shutdowns under high wind conditions as a precautionary standard operating procedure if fire conditions (high winds, temperature, and low humidity) are considered dangerous. When the power is down, so are internet modems, internet service providers, telephone modems, telephone service, and often cell phone towers (many lack reliable backup power) down or unreliable. Hence, conventional communications become disrupted and undependable. Such conditions, in and by themselves, will in many cases create emergency situations for the public that can be ameliorated via FRS/GMRS and ham radio activation and operations. These controlled power grid shutdowns are relatively new, but pose a real threat, while their impact on emergency communications has been neglected by local agencies.

As an SOP, KARO-ECHO members are asked to monitor our primary frequency of 146.415 MHz during PSPS in Kensington and/or El Cerrito in order to provide emergency or welfare assistance to neighborhoods that may need such. This is all the more reason to network with neighbors and neighborhood CERT or CERT-like organizations that radio communications are available as a Neighborhood Communications Hub. Other frequencies that may warrant monitoring are the National Simplex Calling frequency 146.520 MHz simplex and the 145.110 West County RACES/ ACS repeater.

5. Evacuation Centers and Shelters: Evacuation Centers are temporary emergency gathering areas in case of hazardous material situations, fires, aberrant weather conditions, terrorist attacks, earthquakes, and any of the above. KARO-ECHO plans to provide radio personnel at evacuation centers and help coordinate communications with less temporary (Red Cross or FEMA) shelters. Where possible KARO-ECHO will assist **reunification** processes in evacuation centers and shelters as well as **mass care efforts** (food, shelter, clothing, medicines, etc.) as communicators, and provide outgoing **health and welfare** traffic for concerned families, friends, and relatives.

B. KARO-ECHO Activation (Externally)

If any of the above situations have occurred and telephone service is disrupted or disabled, the Emergency Coordinator (EC) or assistant (AEC) should send one predesignated, trained, and vetted operator to the EOC to inquire as to their operational needs, if any. Similarly, all disaster locations, served agencies, and/or community organizations should be contacted through previous arrangements to facilitate access and liaison should cell phone, internet, and/or power is down (for example in a MM7 or greater situation).

In other words, if conventional communications are down, the EOC and other agencies will have no way of communicating with KARO-ECHO hams (and hence the residents within CERT zones) unless at least one ham operator is present at the EOC. A similar situation would exist at all disaster service agencies that are devoid of conventional comms.

Similarly, KARO-ECHO will not be able to perform EOC intra-agency backup comms, nor inter-agency EOC backup comms without being requested (externally activated) by the EOC/EMS. Therefore, if conventional comms are down, the EC or the acting Net Control Station should dispatch at least one mobile operator to the EOC in order to ascertain their EmComm needs. If the EOC is not standing or operational, then a mobile unit should be dispatched by the EC, AEC, or NCS to one of the standing Fire Stations or alternative EOCs. KARO-ECHO operators should always be mindful that the EOC IC is in complete control and command when our RADOS are under their purview.

In specific situations BEFORE a disaster strikes and when telephones and email are still working it may be necessary to activate KARO-ECHO in the advent of a **non-self-announcing event**, fast-moving fire, adverse extreme weather (like the prediction of hurricane winds), chemical spills, evacuations, and the like, which are not self-activating events. Therefore, a telephone tree and/or email list should be kept by the EC and the AECs for such situations. If however, evacuation orders are given, please evacuate as per instructions given that the CWS phone/text notification system is functioning.

IV. Operations

Disaster Radio Communication's operations will be implemented in accordance with the direction of the KARO-ECHO Emergency Coordinator (EC) or his/her delegate (AEC) and using best practices as outlined in the KARO-ECHO Field Operations Handbook, while obeying served agencies' protocols and rules.

All operators should have with them at least the basic go-kit for an **8-hour** disaster assignment (see HYPERLINK "https://drive.google.com/file/d/1PQ5_xwoEVuIQTy3Fir77jQ61cPoPT5-b/view" https://drive.google.com/file/d/1PQ5_xwoEVuIQTy3Fir77jQ61cPoPT5-b/view), which should include picture IDs, clipboard, pencil, spare batteries, transmission line adapters female and male SMA, PL-259 and SO-239, N, and BNC adapters suitable for one's radio) and preferably an external portable antenna capability complete with 30'-50' of coax, matching adapters, portable mast or mounting method.

All operators will first monitor 146.415 MHz simplex after securing the safety of their family and wait for assignment. If preassigned, then embark to your assigned location, while monitoring 146.415 MHz simplex. The KARO-ECHO Emergency Coordinator (EC) or his/her delegate (AEC) is in charge of all KARO-ECHO disaster operations. If such are absent, then the first operator on the 146.415 MHz net should activate the net until relieved by the EC, AECs, or a seasoned Net Control Station (NCS).

The NCS shall keep a written log abbreviating the traffic passed or record the traffic with a voice-activated voice recorder. Communication Centers (Communication Hubs) at district ICPs should use form ICS-309* ideally.

Such hubs are to be staffed by 1 ham operator, 1 GMRS CERT operator, a trained CERT Message Center Manager, and 1 CERT scribe (ICS-309*) if staffing permits. Collaboration and training should be prearranged by the District Radio Communications Coordinator (DRCC). When staffing is low, a single radio operator can attempt to handle all four roles single-handedly.

Note that formal written messages are not needed for most "real-time" tactical comms such as:
Direct conversations between third parties
Life safety matters when timing is critical
Most routine task assignments, dispatches, and completions
Most logistics coordination within KARO-ECHO

Written traffic is necessary for agencies that require it. The Fire Department/EOC, for the most part, will require written traffic in message form ICS 213 or equivalent.

KARO-ECHO will:

Coordinate FRS, GMRS, and Ham frequency use within Kensington and El Cerrito to serve all CERT zones and augment the El Cerrito/Kensington EMS/OES when requested.
Run a weekly EmComm Net to augment training and education
Run a monthly meeting to discuss improvements and facilitate training
Publish a monthly Newsletter
Establish a mentoring program to educate operators.
Engage in the recruitment of new hams and engage in an active PR program.
Maintain all equipment by running regular maintenance logs, ring out the equipment by testing all locations (antennas, feedline radios, power supplies), and coordinate with all agency facility managers at each site location.
Maintain frequent contact with all served agency representatives/coordinators.
Establish a Mutual Aid team (MAT) and Mutual Aid agreements with adjacent RACES/ARES groups
Maintain one or more complete portable/mobile VHF/UHF go-kit station capable of emergency

power and a portable antenna.
Establish an unpublished Command Channel backup frequency and procedures to be used during disasters.
Be capable of emergency power (off the grid) communications from any distant points within the EC/K jurisdiction.
Train regularly with bi-annual Simulated Emergency Tests

V. Drills and Training:

KARO-ECHO will:

Conduct Drills/Tests: KARO-ECHO will participate in all City, County, State, Red Cross, or FEMA drills when requested.
Participate in all CERT drills when requested.
Plan its own drills at least twice a year in order to identify weak spots and future developmental needs.
Train in sustained emergency power operations, portable, fixed, and mobile antenna operations, efficient net operations, shadow operations, and efficient written formal traffic handling.
Operate a weekly on-the-air training net on 146.415 MHz simplex providing training following "best operating practices".

Summary: All EmComm ops shall strive to:
Possess a battery/emergency powered AM/FM radio capable of listening to KCBS 106.9 FM/740 AM and/or NOAA emergency alerts.
Leave cell phones charged up and set 'on' 24 hours/day in order to receive CWS SMS alerts.
Have spare flashlights, batteries, and at least ½ tank of gas in their vehicle at all times.
Maintain their radios and batteries as fully charged and operational.
Have a go-kit checklist and go-kit bag handy.
Have portable and mobile gain antenna capability and operating capacity for at least 8 hours.
Be coordinated with their CERT Area Coordinator as to their own neighborhood action plan.
Be trained to handle both written and tactical radio communications.
Be trained in handling formal written traffic.
Be familiar with the KARO-ECHO Field Operations Handbook.
Reflect Best Practices procedures.

During an alert, all EmComm ops need to monitor 146.415 MHz. Additionally, monitor your designated FRS/GMRS CERT ZONE channel (if assigned by your CERT zone coordinator). Note that most ham UHF radios (70 cm) can be programmed to receive FRS/GMRS frequencies). Check-in to the KARO-ECHO Net when the frequency is clear. If you have emergency traffic, break the net by voicing "EMERGENCY". NCS will acknowledge and direct you.

Reserved Frequencies:
146.415 mHz KARO-ECHO Simplex (**Primary**)
146.475 mHz (secondary) EC/K CERT allocation by County OES
145.110 mHz West CoCo Cty RACES/EMCOMM repeater (PL 88.5 TX - 600 kHz)
444.275 mHz West CoCo Cty RACES/EMCOMM repeater (PL 88.5 TX + 5. mHz)
145.49, 147.735, 145.410 MHz CoCo Cty OES Martinez (PL 107.2 TX - 600 kHz)
147.060 Bay Area Hospital Net (PL 100 TX + 600)
442.150 mHz WA6DUR/R Richmond (PL 107.2 TX+5)
146.505 mHz simplex CoCo County OES Martinez

147.450 mHz simplex Richmond
147.495 mHz simplex San Pablo
147.570 CERT Pinole
146.490 Crockett
147.540 Hercules
147.480 Simplex (NALCO ARES/RACES) Berkeley
440.900 mHz (TX +5 PL 131.8) NALCO ARES/RACES
146.880 mHz (repeater TX -600 PL 77) Oakland ARES/RACES
3893 kHz Contra Costa County CommU, RACES?ACS, and ARES (OES Martinez)
3992 kHz, 7230 kHz, and 3987 kHz are California OES - ACS frequencies.
147.42 mHz simplex the unofficial national frequency for ARES/American Red Cross
147.57 kHz FM simplex has been adopted in some areas as the ARES/SAR frequency.
DIGITAL communications will be on normal established channels selected by the digital operators on duty.
Please see the KARO-ECHO Simplex Frequency list for alternative simplex frequencies

NOTE: * ICS 309 is the preferred log form for scribes using FRS/GMRS and Ham radio transactions over that of standard form, **ICS-214** (activity log).
ICS 213 is the standard message form to be filled out in triplicate according to instructions.

Glossary and Acronyms:

AEC: Assistant Emergency Coordinator
ACS: Auxiliary Communications Services as defined by State OES
ARES: Amateur Radio Emergency Service as defined by the American Radio Relay League
ARRL: The American Radio Relay League
Auxfog and Auxcomm: Auxiliray Communications System standard operating guides for disaster communications as defined by CISA
BC: Block Captain
Climate Change: Climate conditions can cause tornado-like destructive winds and unprecedented tornado firestorms knocking out conventional communications and structural integrity.
Command Net: As the size of an incident increases and more jurisdictions become involved in the incident, a Command Net may become necessary. This net allows the incident managers to communicate with each other to resolve inter- or intra-agency problems, particularly between cities or within larger jurisdictional areas. It is conceivable that this net could become cluttered with a high volume of traffic. It may also be necessary to create multiple command nets to promote efficiency. For KaroEcho purposes a command net will involve strategic planning and coordination between the EC, AEC, Net Control Stations (NCS), staff, and supervisory personnel.
Comm Hub: Neighborhood Communications Hub
CommU: Communications Unit as defined by DHS and CISA
CERT: Community Emergency Response Team
CWS: Contra Costa Community Warning System
DAT: Damage Assessment Team
Directed Net: The Net Control Station (NCS) is in charge of the operation. For routine or priority traffic say break. For emergency traffic say: “break break or simply voice, "EMERGENCY". The NCS will say: “break go ahead”. Then identify yourself and list your traffic. The NCS will then give further procedural instructions. For emergency traffic it is best to say, “EMERGENCY” and then the NCS will recognize you. Voice, “PRIORITY{, for priority traffic. KARO-ECHO uses a directed net procedure. Notify the Net Control Station and NCS will direct you.
DRCC: District Radio Communications Coordinator (DRCC) coordinates between KARO-ECHO

and the ZC to establish procedures for a functional neighborhood Comm Hub before the disaster. Same as ZRCC (Zone Radio Communications Coordinator). The DRCC coordinates communications needs with the Zone Coordinator or Area Coordinator) before a disaster, in an attempt to provide a ham net operator and train a GMRS Net operator(s), multiple scribes, and a message center manager.

DUPLEX and SIMPLEX:

Duplex: Operation where the transmit frequency differs from the receive frequency. Duplex operation is commonly used in repeater operation as well as in cross band operation.

Simplex: Direct communications where the transmit and receive frequencies are the same.

EC: Emergency Coordinator under ARES

EmComm: Emergency Communications

EMP: Electromagnetic Pulse: EMPs can be caused by solar storms and atmospheric explosions which can destroy conventional communications facilities, electronics, computers, etc. if not protected.

EOC: Emergency Operating Center

ERP: Effective Radiated Power. Usually calculated by RF output in watts times the gain of the antenna over a theoretical dipole (dBd). EIRP is the effective radiated power using a theoretical isopole (dBi), which is theoretically 2.5 db less efficient than dBd. Examples: 5 watts RF output using a dipole antenna would equal 5 Watts ERP. Using 5 watts RF output a 3 dBd gain antenna, the ERP would be 10 watts.

FRS: Family Radio Service limited to .5 watts on channels 8-15, and 2 watts on ch.1 – 7 and 2 watts on Ch. 16-22. External antennas are not allowed. FRS works well for short distance radio communications within buildings and blocks (line of sight) dpending upon terrain. HYPERLINK "https://www.fcc.gov/general/family-radio-service-frs" \t "_blank"https://www.fcc.gov/general/family-radio-service-frs

GMRS: General Mobile Radio Service uses channels from around 462 MHz to 467 MHz. The most common use of GMRS channels are for short to medium distance two-way communications using hand-held radios similar to walkie-talkies, base stations, and repeaters. A small base station is one that has an option of an outside antenna and can transmits with no more than 5 watts on channels 1-7, .5 Watts on channels 8-15, and 50 watts on the rest of the GMRS frequencies (Ch. 16-22) HYPERLINK "https://www.fcc.gov/general/general-mobile-radio-service-gmrs" \t "_blank"https://www.fcc.gov/general/general-mobile-radio-service-gmrs

OLD FRS/GMRS Channel nomenclature: Please note that the channel designators for GMRS and FRS changed as of September 1, 2017 For example: channel 7 FRS is the old GMRS channel 15 but the frequency is the same 462.7125 MHz. This information may be useful to avoid confusion for those who have older equipment. In the new radios Channels will be designated 1-22 in both FRS and GMRS services.

GMRS and FRS Dual Service Radios:

Many manufacturers have in the past received FCC type approval to market radios that are certified for use in both GMRS and FRS (called dual service radios). Others market FRS only or GMRS only radios.

IC: Incident Commander

ICP: Incident Command Post or CP (Command Post and/or Staging Area)

ICS: Incident Command Structure

Logistics Net: A net dealing with the procurement, maintenance, and transportation of material, facilities, staffing, and scheduling personnel during a disaster.

MAT: Mutual Aid Team: A group of not more than 5 trained, vetted, and self-contained RADOS capable of traveling to disaster areas as requested.

Message Center Manager: An operational position to triage messages in and out of Comm Hubs.

MM: refers to the USGS Modified Mercalli Intensity Scale that rates earthquake intensities based on

subjective criteria.
MHz: MegaHertz
NCS: Net Control Station
OES: Office of Emergency Services
PL: Private Line: A CTSS or Digital (DCS) Tone)
Precedences:
EMERGENCY—Any message having life and death urgency to any person or group of persons, that is transmitted by Amateur Radio in the absence of regular commercial facilities. This includes official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to relief efforts for the stricken populace in emergency areas. On CW and digital modes, this designation will always be spelled out. When in doubt, do not use this designation.
PRIORITY—Abbreviated as P on CW and digital modes. This classification is for important messages having a specific time limit, official messages not covered in the emergency category, press dispatches and emergency-related traffic not of the utmost urgency.
WELFARE—Abbreviated as W on CW and digital modes. This classification refers to an inquiry about the health and welfare of an individual in the disaster area, or to an advisory from the disaster area that indicates all is well. Welfare traffic is handled only after all Emergency and Priority traffic is cleared. The American Red Cross equivalent to an incoming Welfare message is DWI (Disaster Welfare Inquiry).
RACES: Radio Amateur Civil Emergency Service as defined by the FCC
RADO: Radio Operator under CommU
Radio Officer: As defined by RACES and State OES
Resource Net: For larger-scale incidents, a Resource Net is used to recruit operators and equipment in support of operations on the Tactical Nets. As an incident requires more operators or equipment, the Resource Net evolves as a check-in place for volunteers to register and receive assignments. Also used to track personnel back and forth safely to and from assignments.
Resource Nets may be combined within and under Logistics (a Logistic Net) unless traffic becomes too heavy. In case of heavy traffic, a new frequency and net control station should be established for an independent Resource Net apart from the Logistics Net. Also see Tactical Net.
SAR: Search and Rescue
SCRIBE: Logs the gist of communications using ICS form 309 on net frequencies.
Tactical Net: The Tactical Net is the front line net employed during an incident, usually used by a single government or related disaster services agency to handle emergency traffic within their jurisdiction. There may be several tactical nets in operation for a single incident depending on the volume of traffic and number of agencies involved. Communications include traffic handling (written and point to point) and if time permits resource recruiting.
Triage: the sorting of and allocation of treatment to patients and especially battle and disaster victims according to a system of priorities designed to maximize the number of survivors
WebEOC: WebEOC is a secure, Internet-based emergency information management application that provides real-time information sharing of operational details from various government and public safety groups in response to an imminent threat, emergency or disaster. It requires an internet connection.
ZC: Zone Coordinator. Same as CERT Area Coordinator.
Zone: A defined area with boundaries
ZRCC: Same as DRCC

References:
KARO-ECHO Disaster Communications Field Operations Handbook. Link at
HYPERLINK "https://www.karoecho.net/documents" https://www.karoecho.net/documents

How to work a Directed Net (Link at HYPERLINK "https://www.karoecho.net/documents" https://www.karoecho.net/documents

 HYPERLINK "https://www.usgs.gov/natural-hazards/earthquake-hazards/science/modified-mercalli-intensity-scale?qt-science_center_objects=0" \l "qt-science_center_objects" Modified Mercalli Intensity Scale from the USGS

 HYPERLINK "https://drive.google.com/file/d/1HrJCRdgqro8p1uADPrzxvcPdwE5uI8z5/view" Emergency and Battery Power Operations Direct link

Efficient Message Handling (advanced) Link at HYPERLINK "https://www.karoecho.net/documents" https://www.karoecho.net/documents

 HYPERLINK "https://drive.google.com/file/d/1Mp5Whyri5jIlgYEFKlK2hxIRPqbF2twa/view" KARO-ECHO Self-Evaluation Task Book DRAFT

 HYPERLINK "https://drive.google.com/open?id=1b52QimF_k6WY90aHIPpnoEvmmL5cp1pd" \t "_blank" KARO-ECHO TRAINING GUIDE BASED ON THE FOUR LEVELS OF SKILL (Short Form)

 HYPERLINK "https://drive.google.com/open?id=10uyIW_8bFrtRkQz_tZvUdjWhCguHNxFv" \t "_blank" KARO-ECHO TRAINING GUIDE Based on the Four Levels of Skill (Detailed long-form)

 HYPERLINK "https://drive.google.com/file/d/1PQ5_xwoEVuIQTy3Fir77jQ61cPoPT5-b/view?usp=sharing" \t "_blank" KARO ECHO Go Kit / HYPERLINK "https://drive.google.com/file/d/1PQ5_xwoEVuIQTy3Fir77jQ61cPoPT5-b/view?usp=sharing" \t "_blank" *Checklist* HYPERLINK "https://drive.google.com/file/d/1PQ5_xwoEVuIQTy3Fir77jQ61cPoPT5-b/view?usp=sharing" \t "_blank" Recommendations. This Go-Kit is based on the above four types of deployment (Level A, Advanced B, Extra C, and MAT Qualified).

 HYPERLINK "https://drive.google.com/open?id=1HQnK_DRQ2lEhDwH_FOgUCXbqL1CXtQsc" \t "_blank" A Jump-Kit Check-List with Extensive Discussion/Explanation

 HYPERLINK "https://drive.google.com/open?id=1YgC49Rjh8e--o8Em5vmKDumx56QM04cW" \t "_blank" The Role of a Message Center and Message Center Manager

 HYPERLINK "https://drive.google.com/file/d/1Zg1qb2O__CC9BtkW9J75QKOnEpTIQ-yB/view?usp=sharing" \t "_blank" Role of a Neighborhood District Radio Communications Coordinator (DRCC) in Creating and Maintaining Neighborhood Comm Hubs

KARO-ECHO Training Page HYPERLINK "https://www.karoecho.net/workstreams/training" https://www.karoecho.net/workstreams/training

KARO-ECHO Documents page HYPERLINK "https://www.karoecho.net/documents" https://www.karoecho.net/documents

ARES (ARRL) Manual HYPERLINK "http://www.arrl.org/files/file/Public%20Service/ARES/ARESmanual2015.pdf" http://www.arrl.org/files/file/Public%20Service/ARES/

ARESmanual2015.pdf

ARES Field Resource Manual HYPERLINK "http://www.arrl.org/files/file/ARES_FR_Manual.pdf" http://www.arrl.org/files/file/ARES_FR_Manual.pdf

Also please see WWW.KAROECHO.Net for more training and operational guides.